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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/558,954	04/26/2000	Tetsu Sugaya	FUJI 17.289 (100794-11404)	3014
26304	7590	03/18/2005	EXAMINER	
KATTEN MUCHIN ZAVIS ROSENMAN 575 MADISON AVENUE NEW YORK, NY 10022-2585			PHILPOTT, JUSTIN M	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 03/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/558,954

Applicant(s)

SUGAYA ET AL.

Examiner

Justin M Philpott

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 15, 2004 has been entered.

Response to Arguments

2. Applicant's arguments with respect to newly amended claims 1-14 have been considered but are moot in view of the new ground(s) of rejection. Specifically, the newly cited art of Haartsen teaches the new limitations added to the amended claims 1-14.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 6, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (AAPA) (Figs. 1-6 and page 1, line 4 – page 8, line 19) in view of

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U.S. Patent No. 6,501,736 to Smolik et al., further in view of U.S. Patent No. 6,590,928 to Haartsen.

Regarding claims 1, 6 and 14, AAPA teaches a wireless terminal device (e.g., 134 in Fig. 1) comprising: a wireless interface part (e.g., 141) having an interface with a wireless transmission path at a physical layer (e.g., L1 at 134 in Fig. 6); a link forming part (e.g., 142) accessing the wireless transmission path via the wireless interface unit (e.g., 141) and forming a particular link on the wireless transmission path (e.g., see operations of 142 in FIG. 2); and a transmission/reception part (e.g., 140) transmitting and/or receiving transmission information via the particular link formed by the link forming part, the link forming part forming the particular link on the wireless transmission path when initiated (e.g., see page 1, line 4 – page 8, line 19).

However, the AAPA may not specifically require the wireless transmission path to be formed as a physical channel to which a CSMA system is applied, the CSMA system securing a given transmission quality with respect to a total of the number of links concurrently formable and the amount of the transmission information, and a plurality of links on a path formed and persisting while the path remains active.

Smolik also teaches a wireless terminal device (e.g., at 201 in FIG. 2) communicating with a wireless communication system (e.g., at 202). Smolik further teaches the wireless communication system secures a given transmission quality (e.g., corresponding to transmission rate) with respect to a total number of the links currently formable and the amount of the transmission information (e.g., call carrying capacity, see col. 1, line 56 – col. 2, line 7). The teachings of Smolik provide increased capacity and accommodate varying conditions of traffic demands and desired quality of service (e.g., see col. 2, lines 31-38). Thus, at the time of the

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invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Smolik to AAPA in order to provide increased capacity and accommodate varying conditions of traffic demands and desired quality of service.

However, AAPA in view of Smolik may not specifically disclose the wireless communication system is a CSMA system and a plurality of links on a path are formed and persist while the path remains active.

Haartsen also teaches wireless communications and, specifically, teaches the wireless system may comprise a CSMA system (e.g., see col. 2, lines 40-50 and col. 9, lines 3-17) and a particular link (e.g., link to first user on the virtual channel, see col. 11, lines 12-23) sharing the wireless transmission path (e.g., virtual channel) with one or more additional links (e.g., link to second or more users, see col. 11, lines 12-23) each associated with an additional wireless terminal device (e.g., user) (see also col. 11, lines 5-9 regarding wireless LANs), the particular link and the one or more additional links each being formed with an initialization of the wireless transmission path (e.g., see col. 10, line 59 – col. 11, line 9 and col. 12, lines 28-49 regarding synchronization for the piconet utilizing the virtual channel) and persisting while the wireless transmission path remains active (e.g., see col. 13, lines 40-48 regarding being links utilized without needing to establish connections). The teachings of Haartsen provide a wireless communications system with increased overall throughput (e.g., see col. 10, lines 59-63; col. 11, lines 20-23; and col. 3, line 39 – col. 4, line 23). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the wireless communication teachings of Haartsen to the wireless communications system of AAPA in view of Smolik in order to provide the wireless communication system with increased overall throughput.

Regarding claim 2, AAPA teaches the link forming part (e.g., 142) captures resources of an upper layer including a data link layer (e.g., IP layer at 134 in FIG. 6) in accordance with the physical layer (e.g., L2, L1) of the wireless transmission path at the time of forming the particular link.

5. Claims 3-5 and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Smolik, further in view of Haartsen, further in view of U.S. Patent No. 6,442,151 to H'mimy et al.

Regarding claims 3, 7, 8 and 10, AAPA in view of Smolik in view of Haartsen teach the device discussed above regarding claims 1, 6 and 14, and further, Smolik teaches a monitoring part for monitoring, for each link, the amount of the transmission information handled (e.g., transmitted/received in downlink/uplink) by the transmission/reception part (e.g., monitoring total power corresponding to the amount of transmission information, see col. 7, line 23 – col. 11, line 18), the link forming part changing, as to the particular link formed in advance, a transmission capacity (e.g., call capacity) to a value which ensures a predetermined transmission quality in accordance with the amount of the transmission information (e.g., see FIG. 4 and col. 9, line 27 – col. 10, line 36). As discussed above, the teachings of Smolik provide increased capacity and accommodate varying conditions of traffic demands and desired quality of service (e.g., see col. 2, lines 31-38). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Smolik to the wireless terminal device of the prior art disclosed in the instant application in order to provide increased capacity and accommodate varying conditions of traffic demands and desired quality of service.

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However, AAPA in view of Smolik in view of Haartsen may not specifically disclose alternatively substituting another link having another transmission capacity greater than that of the particular link.

H'mimy also teaches a wireless terminal device (e.g., 12 in FIG. 4) communicating with a wireless communication system (e.g., 14). H'mimy further teaches substituting another link having another transmission capacity greater than that of a first particular link (e.g., see col. 3, lines 23-34). The teachings of H'mimy provide improved uniformity of channel quality distribution in a system resulting in overall increased transmission quality and capacity (e.g., see col. 3, lines 57-62). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of H'mimy to the device of AAPA in view of Smolik in view of Haartsen in order to improve uniformity of channel quality distribution and provide overall increased transmission quality and capacity.

Regarding claims 4 and 9, AAPA in view of Smolik in view of Haartsen in view of H'mimy teach the device as discussed above regarding claims 3, 7, 8 and 10, and Smolik teaches transmission quality adjustments may be implemented via a man-machine interface input (e.g., see col. 10, lines 39-46 wherein setting thresholds may be performed manually).

Regarding claims 5 and 11, AAPA in view of Smolik in view of Haartsen in view of H'mimy teach the device as discussed above regarding claims 3, 7, 8 and 10, and Smolik teaches the monitoring monitors a frequency of occurrence of a collision in the physical channel in CDMA (e.g., see col. 9, lines 19-30 regarding reaching a predetermined level of calls being blocked).

Regarding claim 12, AAPA in view of Smolik in view of Haartsen in view of H'mimy teach the device as discussed above regarding claims 3, 7, 8 and 10, and H'mimy further teaches a memory part (e.g., database, see col. 10, line 38 – col. 11, line 3) which stores an amount of information assigned to a port number (e.g., corresponding to one of a plurality of channels), and a port number monitoring part (e.g., see col. 10, line 45 regarding monitoring) adding to the transmission information transmitted or received, wherein the link forming part changes based on the amount of transmission information stored in the memory part and related to the port number acquired by the port number monitoring port, and a transmission capacity of one of the individual links is formed in advance (e.g., see col. 10, lines 55-62 regarding preassignment algorithm) to a value which insures a predetermined transmission quality. As discussed above, the teachings of H'mimy provide improved uniformity of channel quality distribution in a system resulting in overall increased transmission quality and capacity (e.g., see col. 3, lines 57-62). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of H'mimy to the device of AAPA in view of Smolik in view of Haartsen in order to improve uniformity of channel quality distribution and provide overall increased transmission quality and capacity.

Regarding claim 13, AAPA in view of Smolik in view of Haartsen in view of H'mimy teach the device as discussed above regarding claims 3, 7, 8 and 10, and Smolik teaches transferring control information necessary for changing a transmission capacity (e.g., see col. 5, line 60 – col. 8, line 18 regarding the Service Option Control Order comprising the ORDQ field).

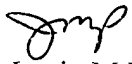
Conclusion

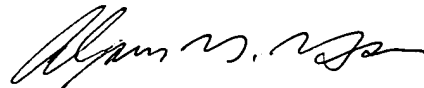
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Nos. 5,249,181 and 5,343,512 to Wang et al. disclose methods for wireless communications utilizing CSMA and comprising a plurality of simultaneous wireless links.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M Philpott whose telephone number is 571.272.3162. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on 571.272.3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Justin M Philpott



**ALPUS H. HSU
PRIMARY EXAMINER**